

## G21F

**PROTECTION AGAINST X-RADIATION, GAMMA RADIATION, CORPUSCULAR RADIATION OR PARTICLE BOMBARDMENT; TREATING RADIOACTIVELY CONTAMINATED MATERIAL; DECONTAMINATION ARRANGEMENTS THEREFOR (radiation protection by pharmaceutical means [A61K 8/00](#); in cosmonautic vehicles [B64G](#); combined with a reactor [G21C 11/00](#); combined with X-ray tubes [H01J 35/16](#); combined with X-ray apparatus [H05G 1/02](#))**

### Definition statement

*This place covers:*

Shielding providing protection against ionising radiation, i.e. against x-radiation, gamma radiation, corpuscular radiation or particle bombardment; devices and methods to treat radioactively contaminated materials.

### References

#### Limiting references

*This place does not cover:*

Radiation protection by pharmaceutical means	<a href="#">A61K 8/00</a>
Use of cosmetics or similar toilet preparations already classified as such in <a href="#">A61K 8/00</a> when brought into direct contact with the skin (i.e. topical preparations) for affording protection against X-rays or other harmful rays	<a href="#">A61Q 17/04</a>
Radiation protection in cosmonautic vehicles	<a href="#">B64G 1/56</a>
Shielding structurally associated with a reactor	<a href="#">G21C 11/00</a>
Vessels, containers or shields associated with X-ray tubes	<a href="#">H01J 35/16</a>
X-ray producing apparatus involving X-ray tubes; constructional details thereof; control thereof; circuits thereof	<a href="#">H05G 1/00</a> , <a href="#">H05G 1/02</a> , <a href="#">H05G 1/30</a>
Apparatus or processes for producing X-rays, not involving X-ray tubes, e.g. involving generation of a plasma	<a href="#">H05G 2/00</a>
Screening of electronic apparatus or components against electromagnetic fields	<a href="#">H05K 9/00</a>

#### Application-oriented references

*Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:*

Apparatus for radiation diagnosis, e.g. combined with radiation therapy equipment; application or adaptation of safety means thereof	<a href="#">A61B 6/10</a>
Applying radioactive material to the body; shielding of fluid reservoirs therefor, e.g. syringe shielding	<b>A61M36/08</b>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Applying radioactive material to, or placing it within, the body	<b>A61M36/00</b>
Safety devices combined with or specially adapted for manipulators	<a href="#">B25J 19/00</a>
Radiation protection in cosmonautic vehicles	<a href="#">B64G</a>

Radiation protection combined with a nuclear reactor	<a href="#">G21C 11/00</a>
Radiation protection combined with X-ray tubes	<a href="#">H01J 35/16</a>
X-ray technique in general	<a href="#">H05G</a>
Radiation protection combined with X-ray apparatus	<a href="#">H05G 1/02</a>

### Special rules of classification

Classification of both important (invention) information and additional information is obligatory.

## G21F 1/00

### Shielding characterised by the composition of the materials

#### Definition statement

*This place covers:*

Shielding characterised by the specific material or composition chosen for obtaining the protection against ionising radiation.

#### References

##### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Lime, magnesia; slag; cements; compositions thereof, e.g. mortars, concrete or like building materials; artificial stone; ceramics; refractories; treatment of natural stone	<a href="#">C04B 28/00</a>
--	----------------------------

## G21F 3/00

### Shielding characterised by its physical form, e.g. granules, or shape of the material

#### Definition statement

*This place covers:*

Both the physical form of the shielding and the physical form of the shielding material or composition used to make the shielding. The subgroups only cover the physical form of the shielding itself.

[G21F 1/00](#) covers the material compositions, i.e. the choice of materials, [G21F 3/00](#) the shape that such composition takes.

#### References

##### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Protective clothing or garments in general	<a href="#">A41D 13/00</a>
Radiation protection in radiation diagnosis apparatus, e.g. combined with radiation therapy equipment	<a href="#">A61B 6/107</a>

## G21F 5/00

### Transportable or portable shielded containers

#### Definition statement

*This place covers:*

Details of transportable containers for materials or structures emitting ionising radiation.

#### References

##### *Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

Radiation protection in radiation diagnosis apparatus, e.g. combined with radiation therapy equipment	<a href="#">A61B 6/107</a>
Vehicles adapted for load transportation, to carry or to comprise special loads or objects	<a href="#">B60P</a>
Containers for contents presenting particular transport or storage problems	<a href="#">B65D 81/00</a>
Shock absorbers per se	<a href="#">F16F</a>
Storage racks within reactor storage pool	<a href="#">G21C 19/07</a>

## G21F 7/00

### Shielded cells or rooms (chambers provided with manipulating devices in general [B25J](#))

#### References

##### *Informative references*

*Attention is drawn to the following places, which may be of interest for search:*

Chambers provided with manipulating devices in general	<a href="#">B25J 21/00</a>
Glove-boxes in general	<a href="#">B25J 21/02</a>
Control or regulating systems in general	<a href="#">G05B</a>

## G21F 9/00

### Treating radioactively contaminated material; Decontamination arrangements therefor

#### Definition statement

*This place covers:*

Treatment of radioactively contaminated material and all decontamination arrangements therefor as well as the decontamination of contaminated objects, apparatus and clothes and the decontamination of surfaces.

## References

### Limiting references

*This place does not cover:*

Reprocessing of nuclear fuel	<a href="#">G21C 19/42</a>
------------------------------	----------------------------

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Separating different isotopes of the same chemical element	<a href="#">B01D 59/00</a>
Reclamation of contaminated soil	<a href="#">B09C 1/00</a>
Ingredients generally applicable to manufacture of glasses, glazes, or vitreous enamels	<a href="#">C03C 1/00</a>
Materials for absorbing liquids to remove pollution	<a href="#">C09K 3/32</a>
Detergent compositions based essentially on surface-active compounds; Use of these compounds as a detergent	<a href="#">C11D 1/00</a>
Decommissioning	<a href="#">G21D 1/00</a>

## Synonyms and Keywords

*In patent documents, the following abbreviations are often used:*

HLW	High Level Waste
MLW	Medium Level Waste
LLW	Low Level Waste